UXPin

Web UI Trends Present & Future

Card-Based Design Patterns

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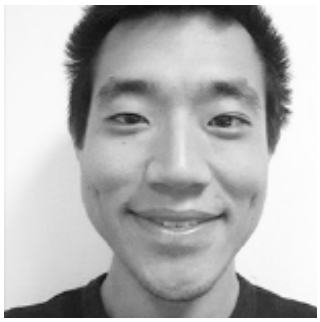

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The What and Why of Cards

Popularized by the image-sharing site Pinterest, cards have been steadily growing in popularity over the past few years and evolving alongside other techniques like responsive design and flat design.

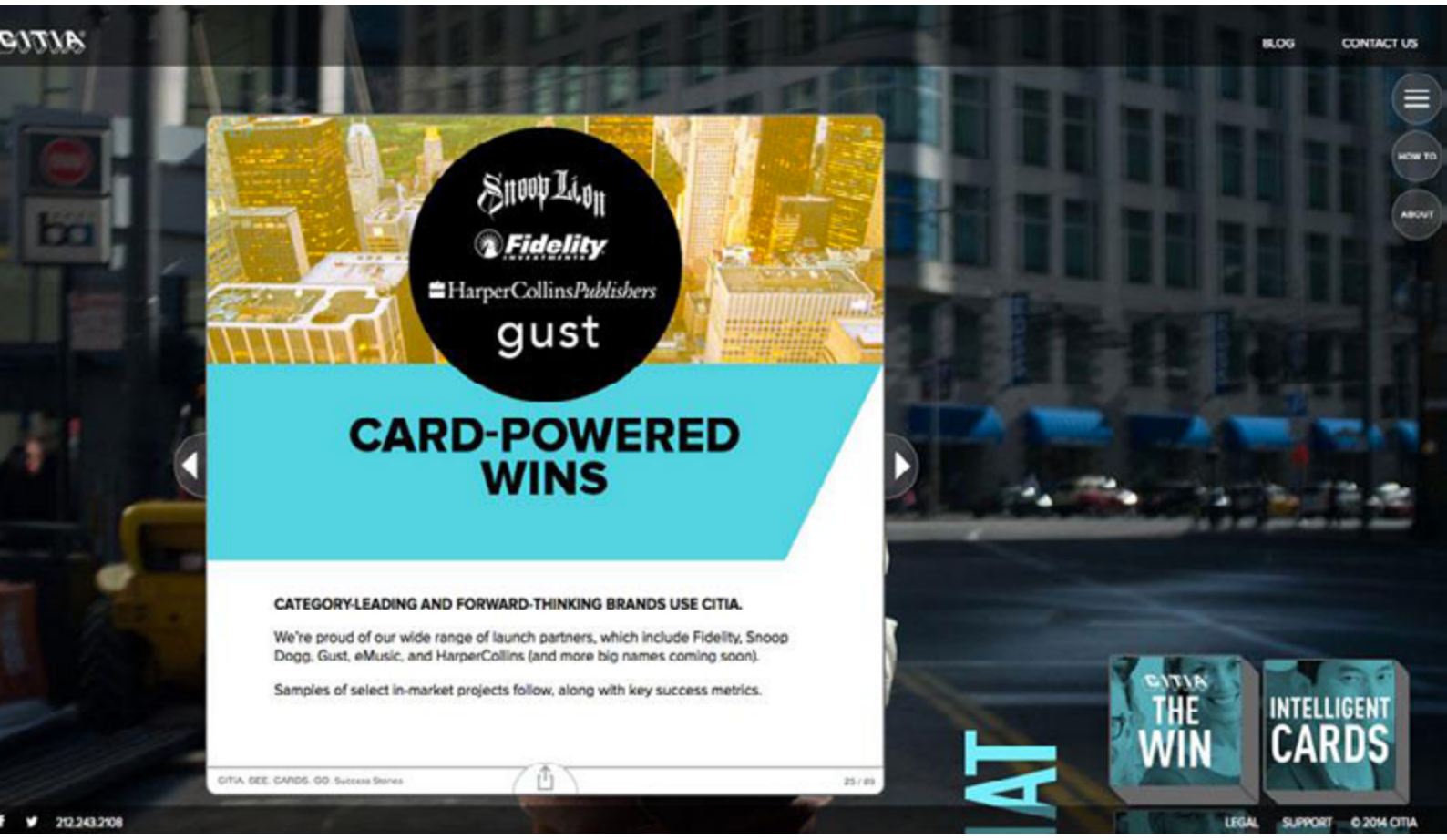


Photo credit: https://citia.com/content/title/citia

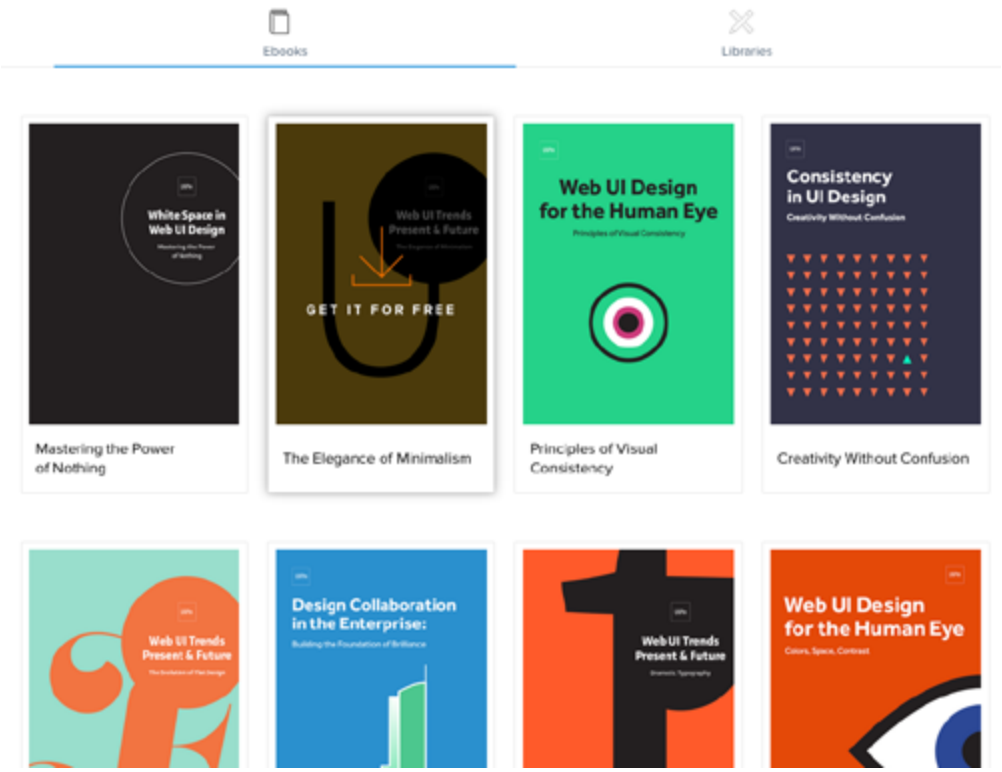


Photo credit: UXPin

Card layouts came to the forefront of web design when web giants Facebook and Twitter each adopted card-driven interfaces for their desktop and mobile websites. Both took full advantage of container-style design to group together information despite a nearly endless stream of activity.

The best approach to understanding cards is to think of each as a singular thought. Even though they contain different images, texts, buttons, links, and other interface elements, every individual card suggests only one primary action – usually clicking through to explore content in greater detail.

Thinking of cards in this way, it's easy to understand their usefulness in a container-style format for web design.

Cards in the Container Style

Card-style design has experienced quite an evolution, having embedded itself as a core pattern in grids, magazine, flat design, and pin-style design formats. All of these techniques fall under the category of container-style design since the basic concept is the same – one block (or card) "contains" one chunk of user interaction.

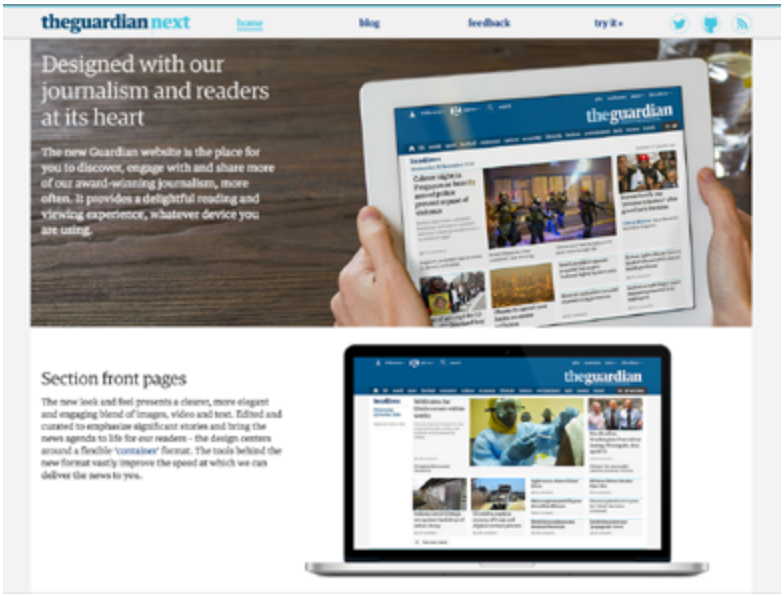


Photo credits: http://www.theguardian.com/us

The best definition of container design itself comes from The Guardian newspaper, which applies this layout style to their website.

As described in their excellent piece on the site redesign, a container (as you'll see below) is essentially a category of cards grouped in a horizontal format. Each page is created through stacking these containers in order of descending priority. Not only does each container function as a standalone content group, but they are also very responsive-friendly by easily adjusting to new screen dimensions.

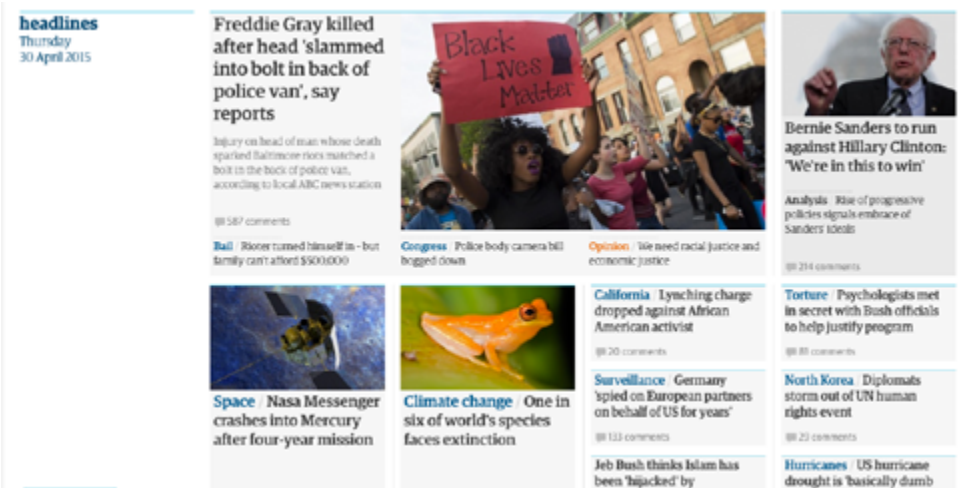


Photo credits: The Guardian

Let's examine a couple manifestations of container-style design below – some of which prevail while others fade in popularity).

1. Pins

Attempting to mimic Pinterest, plenty of designers added elements that look just like the "pins" from the popular social media site. In fact, Wordpress users quickly picked up on the technique by creating dozens of pin-style themes. Unfortunately, the look quickly became stale since every site using the technique started to feel the same.

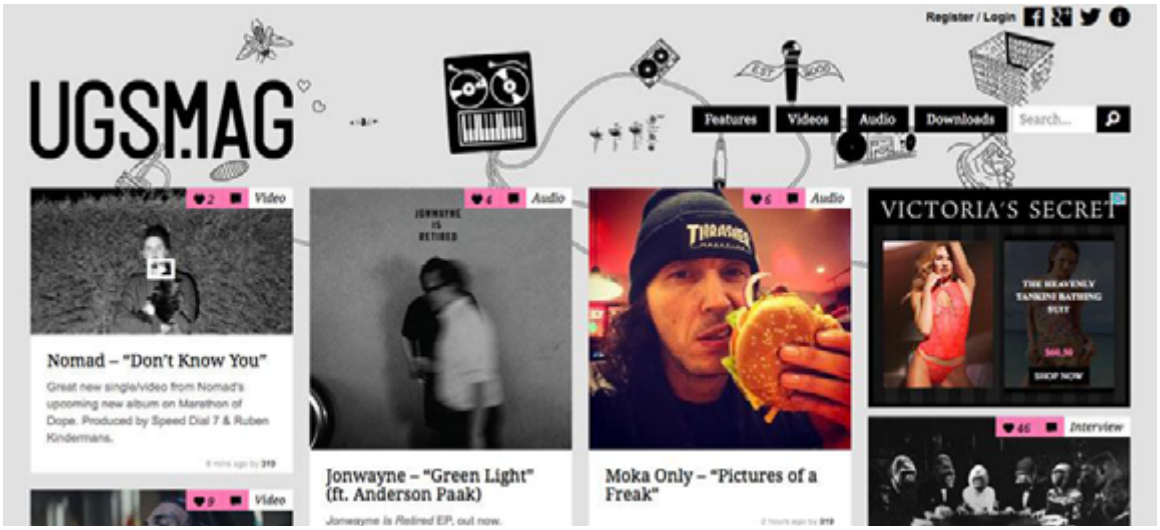


Photo credit: http://ugsmag.com/

The problem with this format is the card layout can feel visual inconsistent with the internal or external pages you arrive at upon clicking each card. However, this style already served its purpose as the birthplace of individual containers for specific bits on content. The philosophy broadened so that information in cards was more than links; content styles include video, images, forms and social sharing tools. In some interfaces, cards also served other purposes, including micro-interactions such as notifications.

2. Metro & Flat Design

Coined by Microsoft, the Metro typography-based design language originated in 2006 as the earliest representation of card-based flat design.

Photo credit: https://www.microsoft.com

While it still retains the colorful chunked-out look of its Metro roots, Microsoft has now evolved its design language to "modern design," which is really just a fancier way of saying "flat design." In fact,

as we described in the free e-book Flat Design Trends, flat design is again evolving by embracing the textures, shadows, and gradients previously associated with more skeuomorphic techniques.

3. Grid (or Masonry)

The classic look of grids never really fades away.

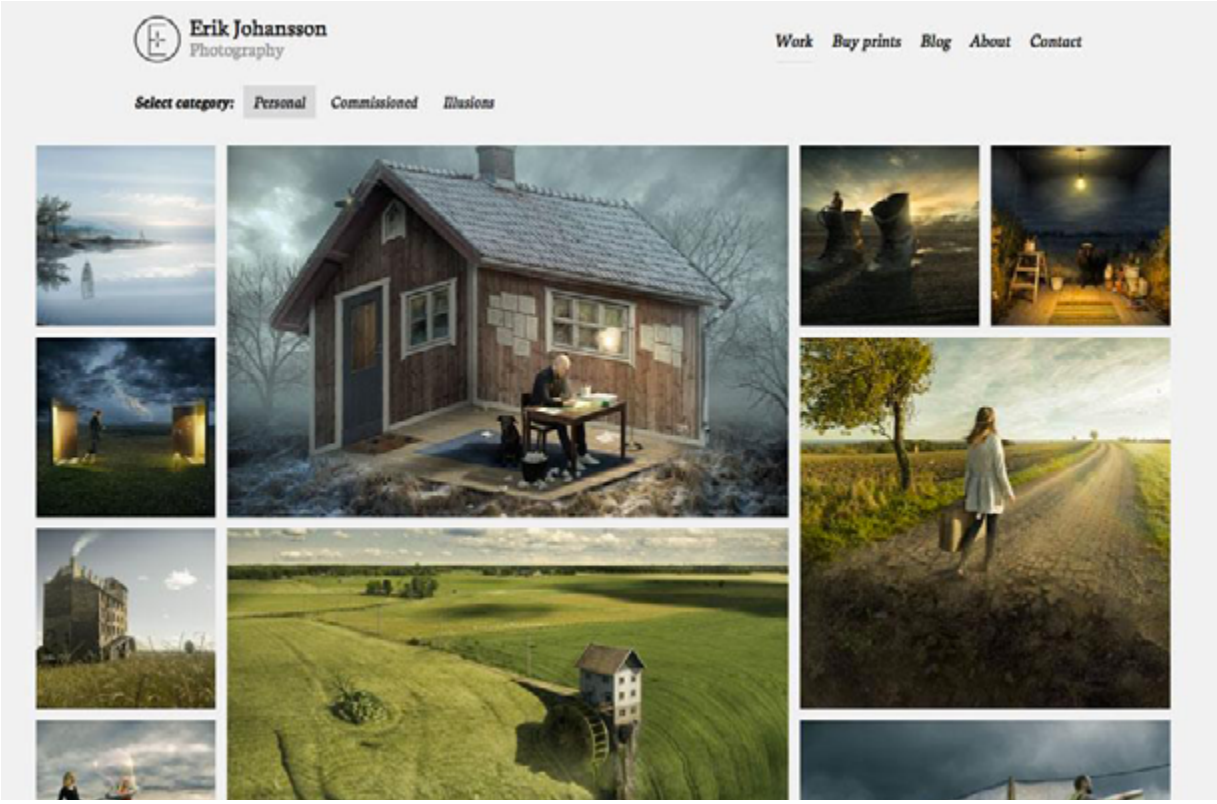


Photo credit: http://erikjohanssonphoto.com/work/imagecats/personal/

Rather than forgetting the style, designers are iterating the technique by adhering to a more strict grid or masonry-style framework that includes blocks of content either spaced out or connected perfectly throughout the layout. Some designers create the grid by weaving together container-style patterns, while others prefer a more purist grid to showcase images and graphics (more common in the stripped-down sites we explored in *Minimalist Design Trends*).

4. Magazine-Style

While this design concept was almost exclusively used for news and magazine websites, it has also emerged as a popular option for content-heavy sites like portfolios and blogs.

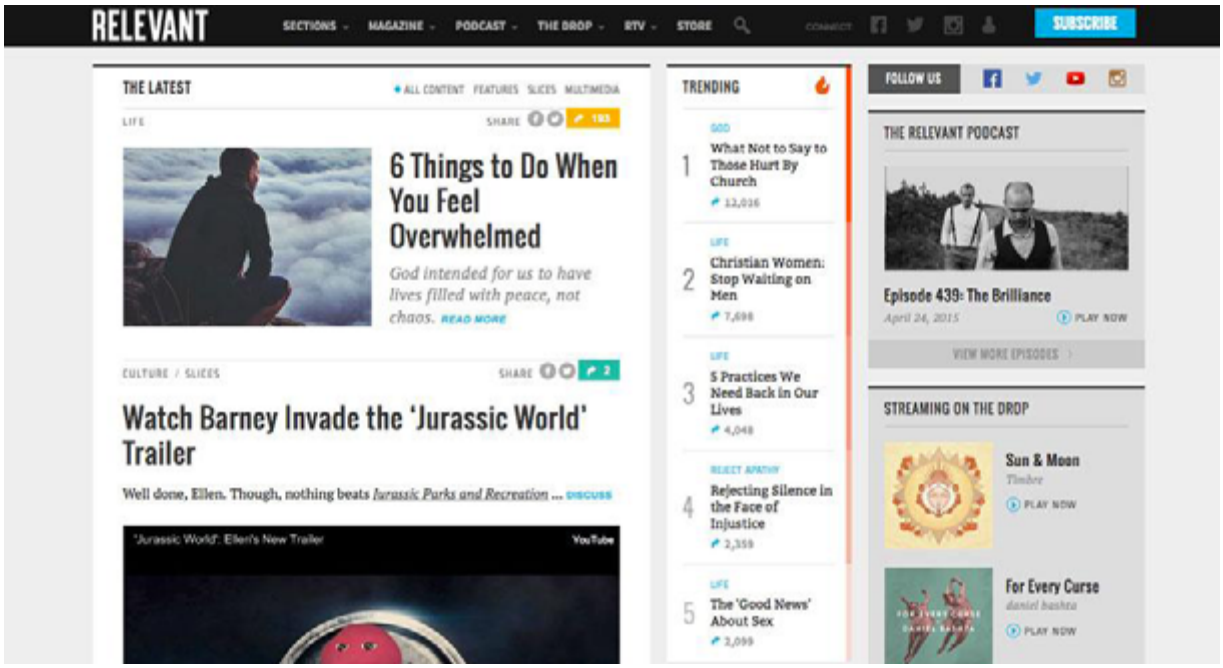


Photo credit: http://www.relevantmagazine.com/

Characteristics of magazine-style design include blocks featuring a "teaser" image and text linking to a full article or post elsewhere on the site. Magazine layouts are especially suitable for regularly-updated sites with large content inventories because the framework allows designers to prioritize content based on relevance (instead of just recency).

As you might imagine, magazine layouts require strong visual balance due to the multiple categories of cards. The extra work upfront, however, is definitely worth the design creates an immediate sense of familiarity and professionalism.

Categorize Your Cards with Usability Testing

Interestingly enough, one of the most helpful ways to create a container-style design is to first start with a usability test rooted in information architecture – card sorting.

Photo credit: CS028 – Figure 8.1. Rosenfeld Media. Creative Commons.

In this technique, you present users with cards representing individual navigation or content items, then have them sort everything into their own categories or pre-existing categories. To create a cards layout, you can conduct this exercise yourself, validate with at least 5 users, then incorporate the most usable structure into your design. Card sorting can even be done digitally and remotely, using a site like Optimal Workshop or ConceptCodify.

Of course, keep in mind that this technique is only helpful if you plan on categorizing your cards – it won't really help if you plan on just listing your cards in an infinite scroll without much structure.

Cards in Responsive and Mobile App Design

One of the reasons cards became a popular design choice is their compatibility with responsive frameworks. Not only are the digestible chunks a perfect match for most mobile user scenarios, the rectangular aesthetic also works well for the UI design itself.

Just think about the design of a card: it's almost the exact shape and size of a mobile phone screen. (Not exact dimensions because of all the different models available, but a good representation based on aspect ratio.)

Card-style design lies at the intersection of design for desktops and mobile devices; it bridges the gap between interaction and usability. As we first described in *Mobile UI Patterns*, cards create a consistent experience regardless of device.

Consider the common AirDrop function on Apple devices. When you have incoming data, a card pops up on the screen as a notification with two options embedded – accept or decline. With a single action you can access (or refuse) this information. The action works in the same way whether you are on a phone, tablet or computer, which means that the user easily understands what is supposed to happen and how to use the design.

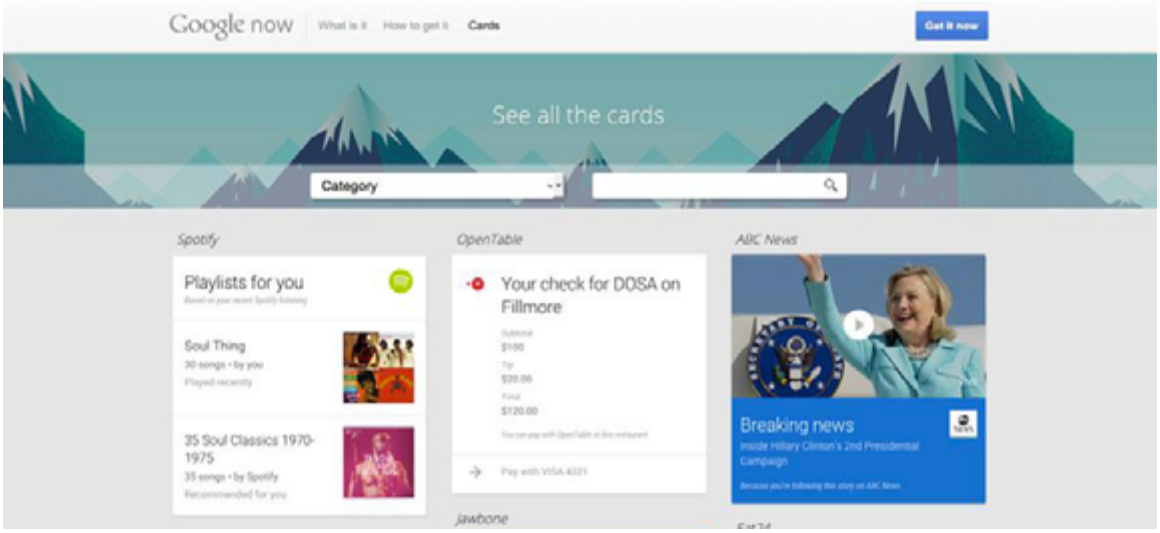


Photo credit: https://www.google.com/landing/now/#cards

In responsive design, cards work best when they are designed in frameworks to expand or contract, and sort and resort based on breakpoints and screen size.

Cards are especially powerful in responsive design because they allow information to populate based on device and screen size without disrupting the flow of the overall layout. Because each card easily adapts to horizontal or vertical layouts, a card-based interface may not require drastic restructuring for different orientations since every component is already neatly organized in its individual container.

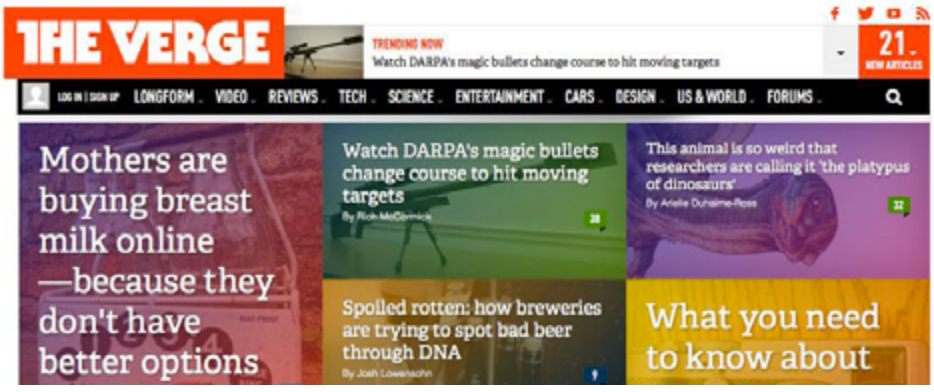


Photo credit: http://www.theverge.com/

Not only can cards adjust to screen and device, but individual card containers can be designed specifically for the content within. Because each card is a rectangle, the design allows for a lot of flexibility with regard to the aspect ratio of the rectangle and how multiple rectangles group and work together. Most commonly, designers stick to a framework with a fixed-width for each card and allow varying depths, at varying increments or in a handful of fixed-depth sizes, using equal spacing between each card.

Some have even referred to card-style design as a native mobile format.

"The easiest form of cards to understand today are the cards by Tinder, Jelly, Spotify and others, where the card is a design metaphor for how to deliver information that is easy to read and act on, particularly for mobile," said technology writer Taylor Davidson in his excellent article on card design. "The rise of mobile created user interface and user experience pressures on many mobile websites and mobile apps, and the information and interaction design of cards emerged as a solution and an opportunity. *When we rewire how we access the web, we rewire how we use it.*"

Pros and Cons of Using Cards

As with any design technique, a card-style interface is not a magic bullet for perfect usability. Card design is actually one of the topics that designers seem to be able to argue about all day.

Is it visual or interaction-based? (Arguably both.) *Is it dated and stale?* (Only if you design it that way.) *Do users actually even like it?* (When it's done well.)

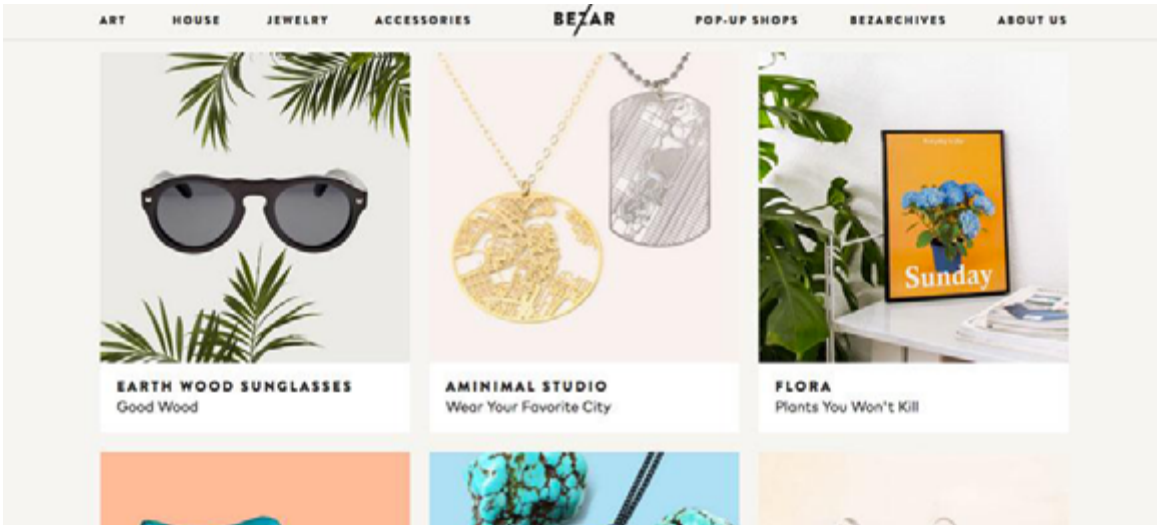


Photo credit: https://bezar.com/#_=_

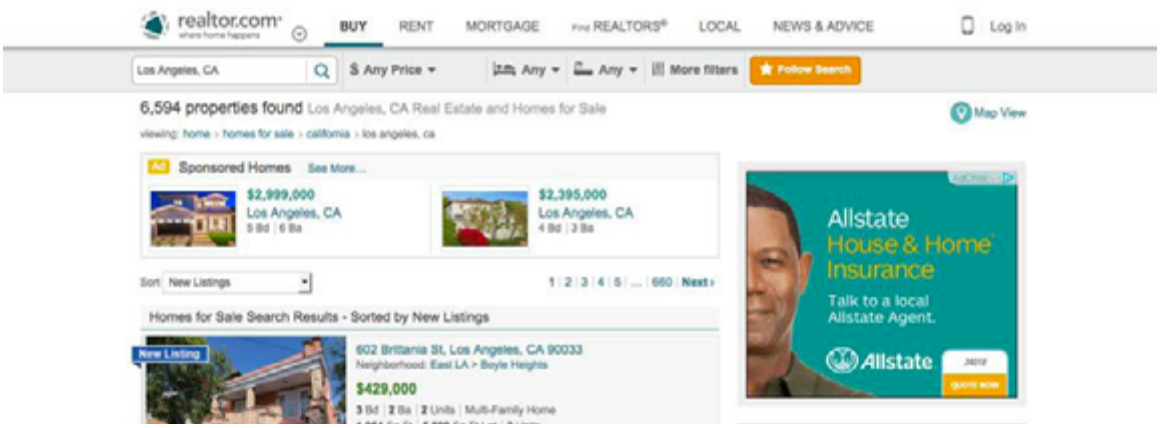


Photo credit: http://www.realtor.com/realestateandhomes-search/Los-Angeles_CA

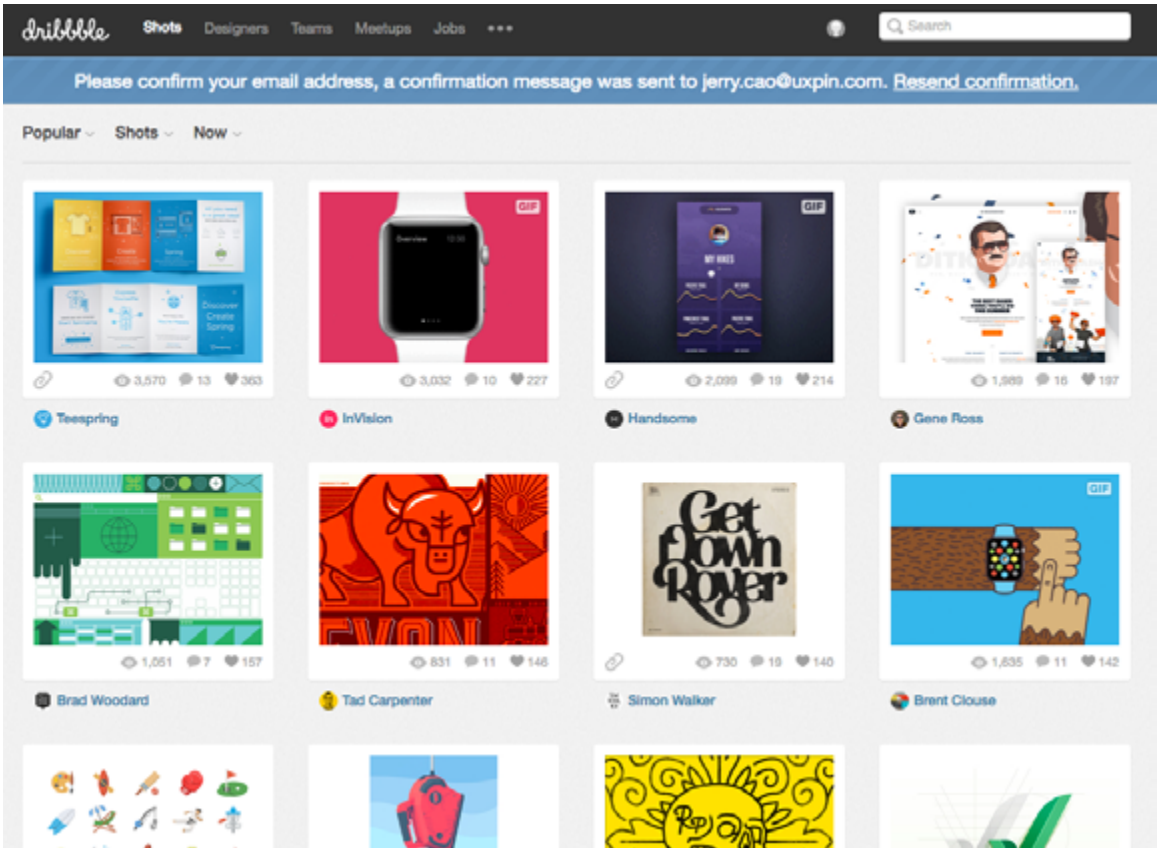


Photo credit: dribbble.com

Cards have reached a level of mainstream saturation that also make them a controversial design choice. From retail (Bezar) to home sales (Realtor.com) to the focus of plenty of Dribbblers (basketball cards), you can find cards in almost every corner of the web.

Let's examine some of the pros and cons:

Pros:

- **Responsive nature makes cards easy to use.** The rectangular shape resizes smoothly to fit the horizontal and vertical orientations of mobile devices, which means users get a consistent experience across all devices (which improves trust, learnability, and therefore usability).

- **Great for aggregated content**. Cards work well for pulling in information from multiple sources into a single website framework.
- **Digestible content blocks are easy for users to scan and click**. In a standard layout, cards are presented with equal hierarchy (each representing one "thought"), which gives users complete freedom to browse and engage as they wish.
- **Cards encourage users to share content on social media**. Don't forget to size cards for social platforms and include hover-to-reveal buttons for easy sharing.
- **Not limited to a certain aesthetic.** Cards complement everything from flat or minimal to embellished designs. As the building blocks of "container-style design", cards can be arranged into a more structured magazine-style format or laid out in an infinitely-scrollable masonry format (it all depends on your site and users).

Cons

- **The style can feel somewhat overused and tired.** This is especially true for sites that just replicate the design of Pinterest or Facebook. As we described in the free e-book *Principles of Visual Consistency*, designers need to get creative in order to make a card layout feel both familiar and original.
- **Require development chops.** Cards are more than just a look. Cards require an active user experience that includes plenty of interactions and usability.

- **Danger of visual overload.** Because cards are often used with sites that contain a lot of information, they can eventually produce cluttered feel. A magazine-style format, however, is a nice solution for especially content-heavy sites.
- **Difficult to create an effective design**. Successful card design requires careful attention to details and a mastery of design techniques in a much smaller and unforgiving space. Each card must contain the perfect visual balance between images, text, and subtle secondary actions – otherwise they'll perform much worse than standard linear layouts.

Cards serves a definite purpose in design, but just make sure you know what you're getting into beforehand.

Card Design Best Practices

The one thing that everyone seems to agree on is that mastering card design isn't as easy as it looks. Using a card interface requires clean aesthetics and direct user engagement with a distinct action – the perfect marriage of visual design and usability principles.

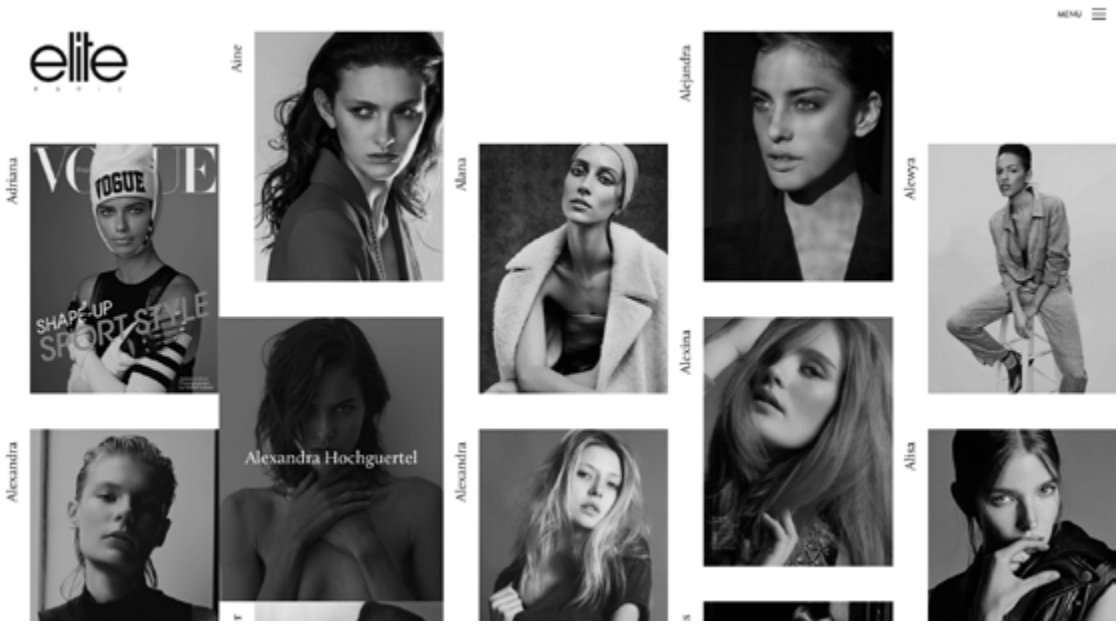


Photo credit: Elite Model Management

According to DesignShack: "The best card design is simple. It also features a rich content experience. For a successful card-style project, both of these elements must be present. But there are plenty of other design techniques that can add to functionality and aesthetics as well.

"The great thing about cards is that there isn't really a pure set of design rules you have to follow. Basic principles of good design are all you need to understand to start making a card-style project."

We can boil card design down to seven design components:

1. **Use plenty of space** – As we described in the *Zen of White Space for Web Design*, negative space helps organize and separate elements within each card.

2. **One piece of information per card** – Think of each card as a unique call to action. Pinterest is about as information-heavy as we'd suggest – they include the image, user, category, repins, and favorites (along with more options upon hover).

3. **Select a clear, crisp image** – Card images are often small and should be cropped and scaled appropriately for the containers in which they reside. We recommend that the image occupies 50-75% of the space in your card, leaving the rest for text and negative space.

4. **Use simple typography** – While a fancy headline can work, simple typography rules in the often-small format. To start, try a timeless sans-serif typeface with medium weight for the card headline and normal weight for body copy.

5. **Include an unexpected detail** – Consider an animated effect, video, round frame or a unique color scheme to make your cards stand out from what other designers are doing. Treat these effects like a potent spice: add just a dash, and don't mix in too many effects or your design looks like it's trying too hard.

6. **Create an open grid** – Create a standard grid that outlines consistent spacing between cards and works across various sizes and breakpoints.

7. **Prioritize usability** – Focus on what each card is supposed to do ahead of the visuals and then design it to fulfill that user promise. As recommended in *Interaction Design Best Practices*, Fitt's Law could not be more applicable here: create generously spaced hyperlinks.

Mastery of card design is all about flawlessly executing the fundamentals of design theory 101 (which perhaps why it can be so difficult). Every card interface is only as strong as the design of each individual card.

When you think about it, you only have a few inches of screen real estate to organize multiple elements into an enticing visual teaser. Proper use of color, type, spacing and creating harmony is vital. Also, don't forget size and scale. While some designs can accommodate oversized or large cards, most require small cards (think mobile-sized) and the design must work in that tighter framework.

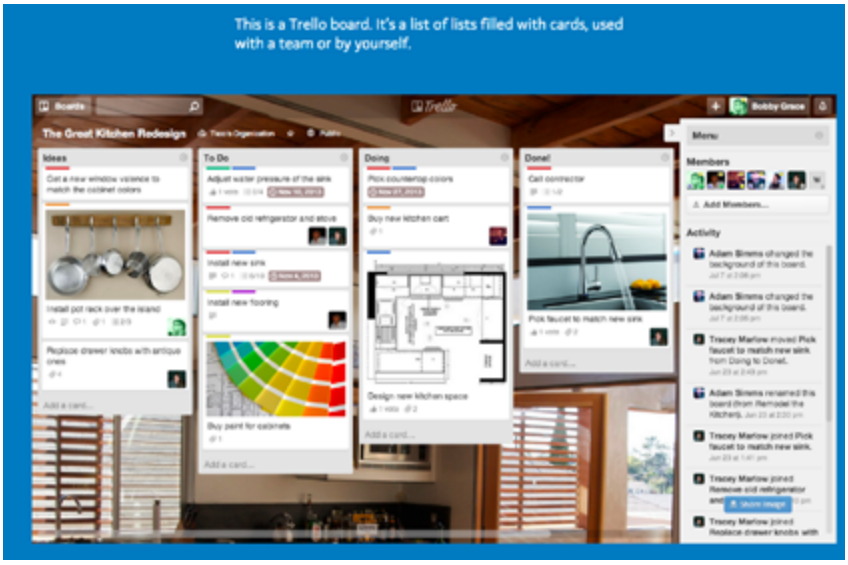


Photo credit: https://trello.com/

The Trello task management app (above) does a great job of overlaying a card-style interface on top of cool background images to create a custom dashboard for users. In this case, cards organize content and make information easy to find and use again and again.

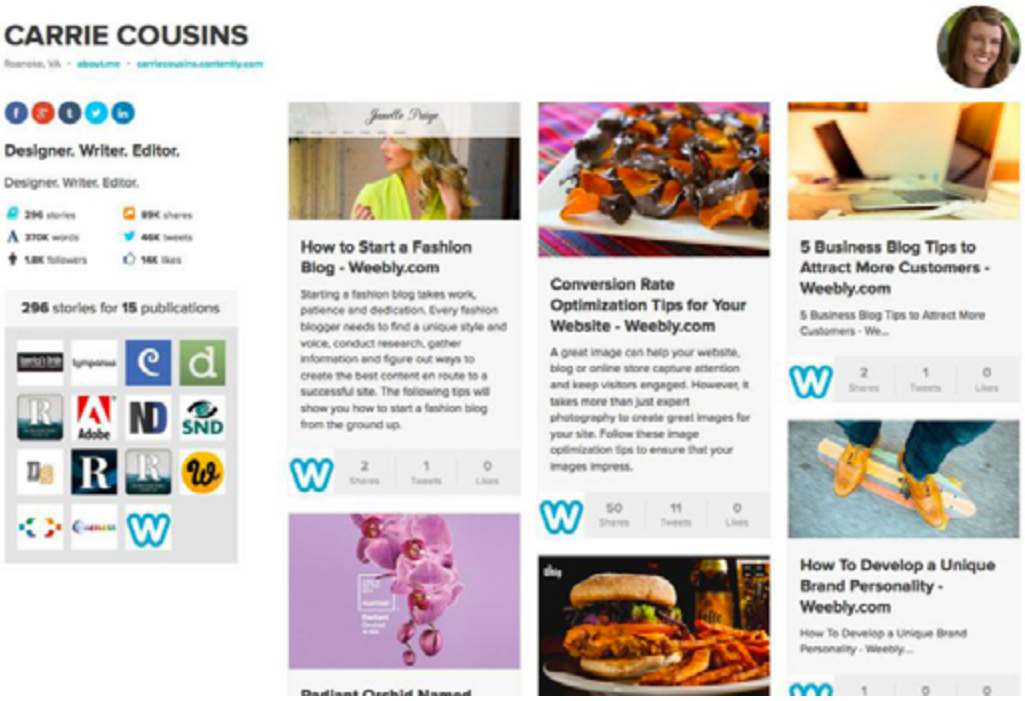


Photo credit: https://carriecousins.contently.com/

Contently's portfolio-publishing platform uses cards to showcase an almost endless amount of links in a useful manner. Each article is linked using a card with an image and short description, with multiple bits of micro-information (like Shares, Tweets, and Likes) included in each card. This is a perfect example of how to design a lot of information into a small card while maintaining an intuitive user interface.

The Future of Cards in Web Design

Card-style interfaces have been in a constant state of evolution and will continue along that path. You'll likely see the most innovation within the responsive and app design space, especially considering Material Design's paper-like influence on Android app design.

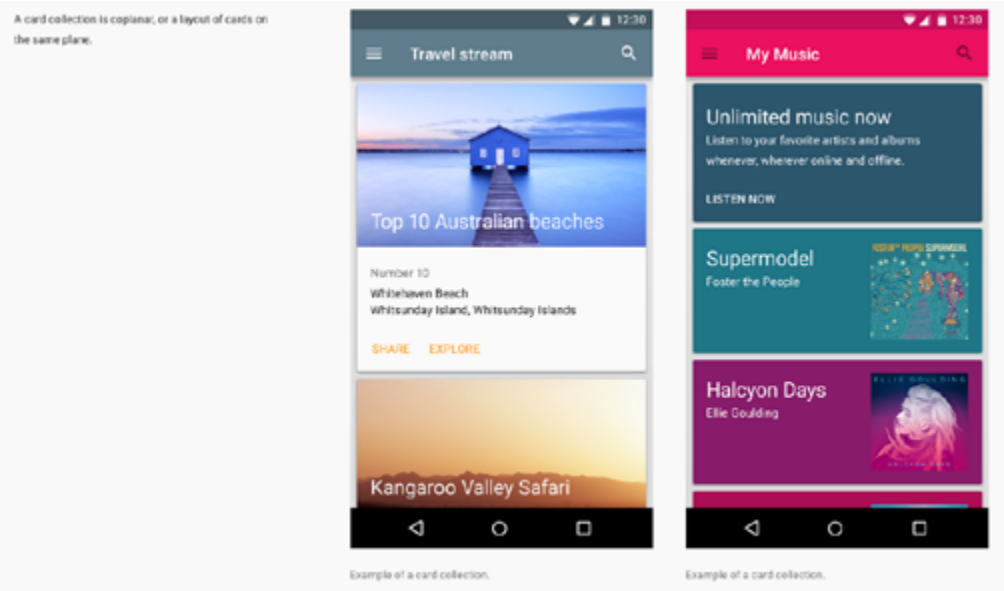


Photo credit: http://www.google.com/design/spec/components/cards.html

Material Design defines cards as "a piece of paper with unique related data that serves as an entry point to more detailed information. For example, a card could contain a photo, text, and a link about a single subject."

Google's documentation is some of the most expansive on the subject of cards that we've seen to date. While a lot of what is suggested is almost overwhelming in its level of detail, Material Design provides a clear outline of what types of content, design and interaction contribute to a card stack that works.

Cards are an interactive tool by nature and interaction design is one of the most rapidly developing design disciplines. We wouldn't be surprised if, in the near future, you might start seeing more cards that feature video or auto-updating content.

While most designers use cards as a link to other content or information, cards can certainly work in more of a Material Design style of usability in which cards showcase information as individual interactions happen, from sorting automatically to including new or updated data such as the weather forecast. Windows Phone users are already accustomed to this type of interaction, but it could very likely expand to a wider Android user base.

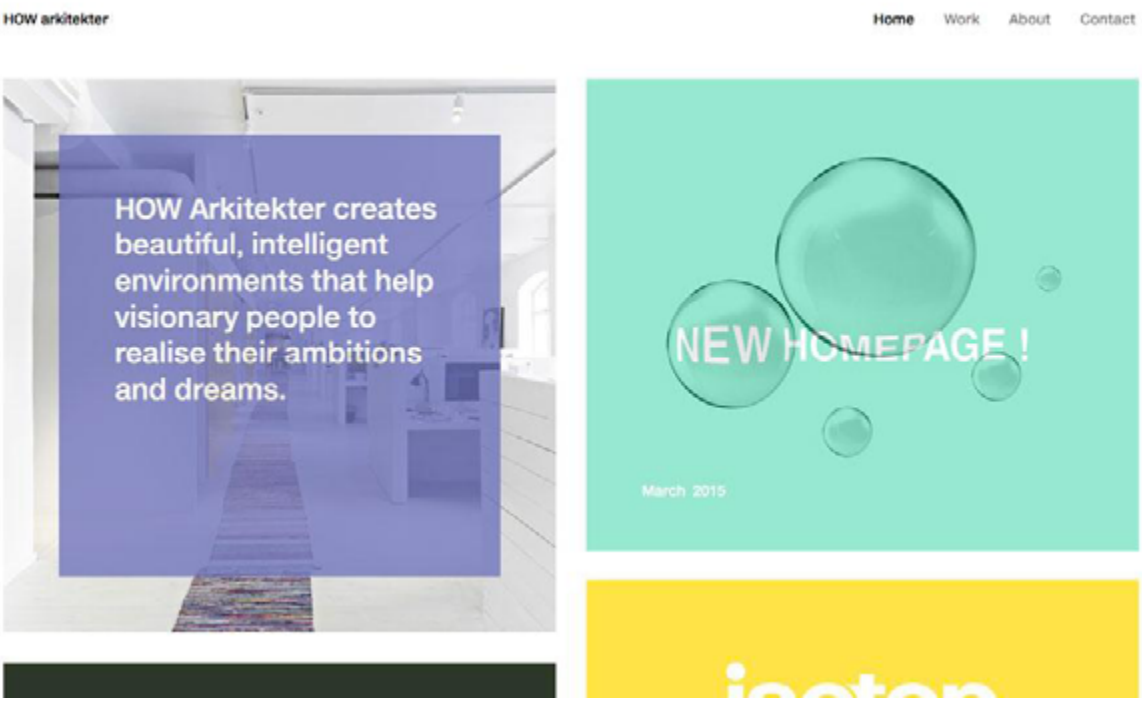


Photo credit: http://www.howarkitekter.se/

While designers have focused on cards that tend to be more "mobile-sized," oversized card designs are also growing in popularity. Big

cards, especially with bright colors and bold typography, are a fun way to add emphasis to a web design and create distinct points of visual interest.

A mix of large and small cards can help focus users on specific content first and set a visual hierarchy among all cards. HOW arkitekter (above) uses a mix of oversized cards – some as links to other pages and some as direct information – to help users navigate the site while displaying important information. Bright color and simple typography leads the user through the content with ease and the oversized design with wide gutters is a fresh take on the card-based minimalist style.

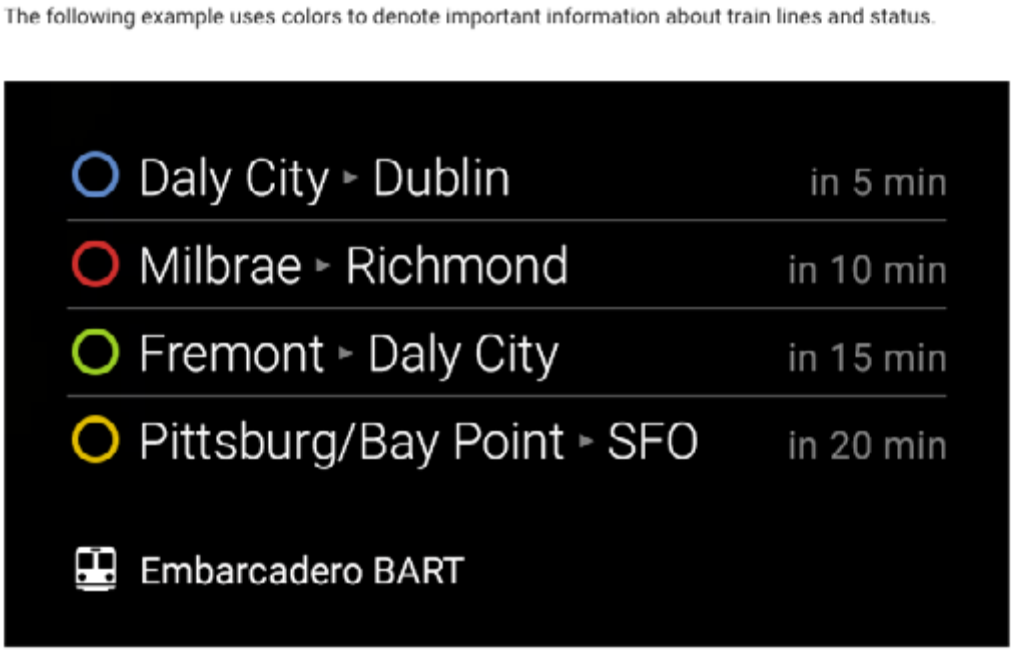


Photo credit: https://developers.google.com/glass/design/style

Starting with Google Glass, cards have definitely left their mark in the wearables space. Even though Google Glass is widely considered a consumer failure, it may yet survive in the professional market. While its future is undoubtedly in question, there is no doubt around

its dependency on cards for its interface design. The product might have failed, but it will be interesting to see how the lessons learned from its design may apply to other augmented reality products (or even just to responsive and app design in general).

It's always fun to think about the type of technology that has yet to be developed – and how the old will become new again.

After all, let's not forget that cards were just plain pieces of paper before we saw their potential as a digital interaction design pattern.

10 Free Resources and Tools

1. **Tutorial: How to Build a Card Interface with Sketch App 3**: Learn to make your own simple card using Sketch, a new but popular web-focused design software.

2. **"Implementing the Card UI Pattern in Phone/HTML5 Applications" by DZone**: Once you know how to design the aesthetic of a card, it's time to work on implementation with code. This article takes you through that structure.

3. **"Getting Started with jQuery Masonry" by Creative Bloq**: This plugin for web designers and developers is part of the magic that helps make grid – and card-styles layouts work seamlessly.

4. **CardStack**: The open source embeddable card runtime for cards that look like responsive web content, works like a mobile app, and feels like a saved file that you can share and reuse.

5. **10 Material Design Cards for Web in CSS and HTML**: As material design continues to grow, designing within its specific card guidelines will become more popular.

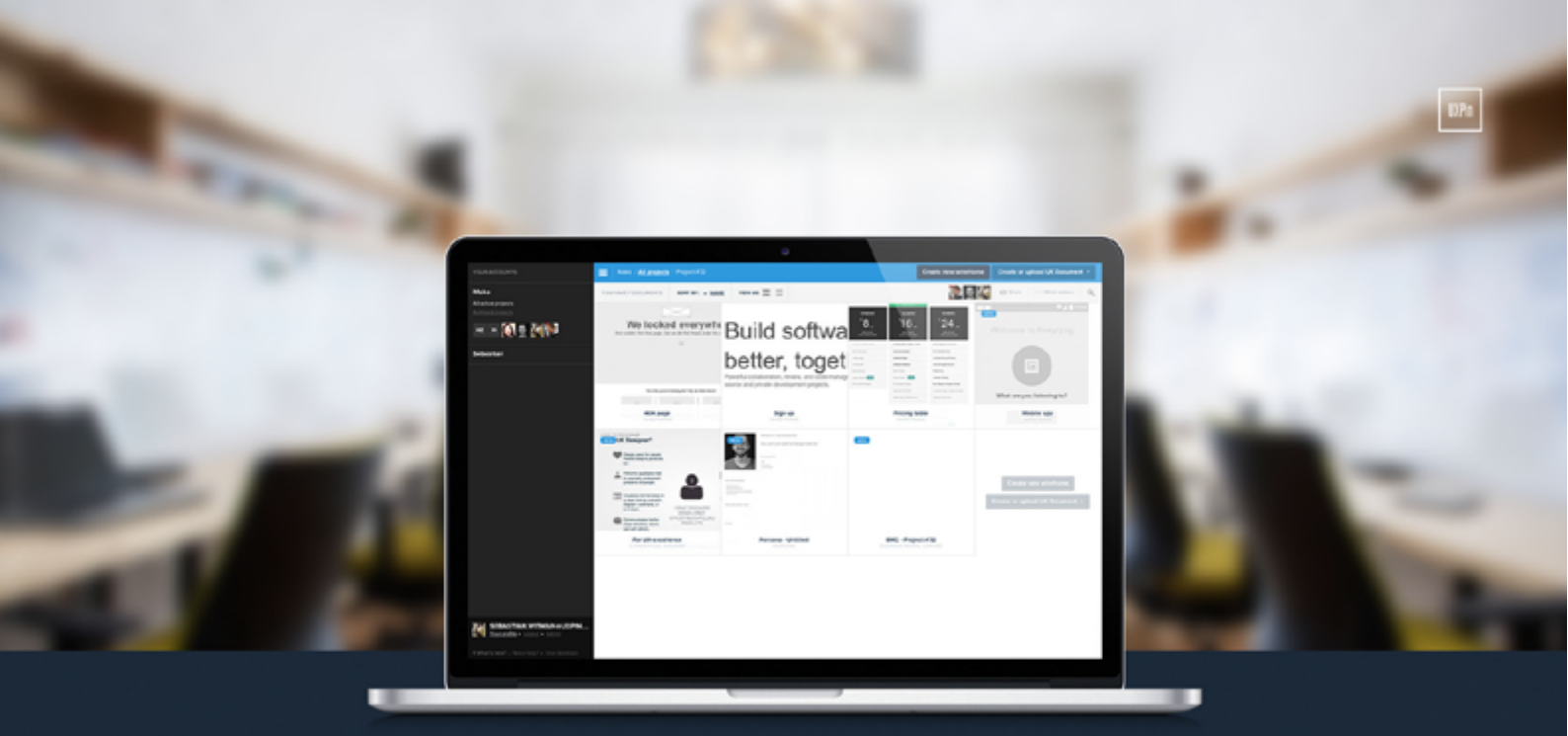
6. **Polymer**: Design custom "encapsulated and interoperable elements" using HTML.

7. **Masonry**: The JavaScript grid layout library works by placing elements in optimal position based on available vertical space, sort of like a mason fitting stones in a wall.

8. **"How We Used Card Sorting to Design a Style Guide for Web Developers and UX Designers" by Optimal Workshop**: Learn the technique that is the backbone behind the design theory.

9. **Bootcards**: Cards-based UI with dual-pane capability for mobile and desktop, built on the Bootstrap framework.

10. **"Why Cards Are the Future of Ads And the Web" by Dan Ucko**: Card-style design works, especially for mixing in paid content. This article explains why it makes sense.



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